Staats Mill Covered Bridge
Spans Tug Fork River
Ripley vicinity
Jackson County
West Virginia

HAER No. WV-31

PHOTOGRAPHS

HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
Washington, D. C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

STAATS MILL COVERED BRIDGE
MILL CREEK WATERSHED RESTORATION PROJECT
No. 8021

WV-31

Location: Secondary 40 west of the junction of Secondary 34, at Staats Mill, across the Tug Fork River, Jackson County, West Virginia

Coordinates: Latitude: 38° 44'6
Longitude: 81° 37'5

Date of Construction: 1887

Builders/Designers: Quincy and Grim, local masons; H. T. Hartley, local builder; Enoch Staats

Present Owner: Jackson County, West Virginia

Present Use: Still in use

Significance: The Staats Mill Covered Bridge is an excellent example of one of the great American contributions to structural engineering, the covered timber bridge.

When the Staats Mill Covered Bridge was constructed in Jackson County, West Virginia, in 1887, it was only the latest of many such wooden structures to dot the countryside of West Virginia and the United States. Today, however, covered bridges, in general, are rapidly becoming an "endangered species." In the past 25 years, West Virginia has witnessed the disappearance of more than 40 covered timber bridges. Of this once plentiful, even common, genre of structures, only 18 remain in this state.

The Staats Mill community of Jackson County was founded by the Staats family. Abraham Staats (1750-1826) and his wife, Ann King Staats (1755-1811), were the progenitors of the Staats family in Jackson County. Abraham served in the Revolutionary War. Their son, Cornelius,

served in the War of 1812 and married Ann Carney. They were the parents of Isaac Staats, who built the first water-powered mill on Tug Fork of Big Mill Creek at the site that came to be known as Staats Mill. The present covered bridge was built adjacent to the mill and near the store, both owned by Enoch Staats, the son of Isaac Staats. Thus, the bridge site has played an important role in the history and development of Jackson County since the 18th century.

In 1887, the Jackson County Court, under the presidency of George W. Shinn, appointed Shinn, George I. Walker, and S. M. Rader to select a site for the proposed bridge over Tug Fork at Big Mill Creek. The bridge at Hardesty's Mill over Tug Fork was adopted as a model and the stone work was built by Quincy and Grim, local masons at a cost of $710.40. The wood superstructure was constructed by local builder H. T. Hartley for $903.95, and Enoch Staats made the dirt fills for the approaches for the sum of $110.00. The total cost of the Staats Mill Covered Bridge was $1,788.35.

The bridge was constructed according to the Long System, patented by Stephen Long in 1830. For spans up to 100 feet, Queen, King and multiple King Post trusses were popular in the Virginias. For longer spans, the familiar Burr arch-truss system was the usual solution employed by the craft-trained bridge builders of the 19th century. However, several notable bridges were constructed with Long trusses and, for spans over 100 feet, these trusses were often combined with an arch to reduce deflections caused by loads, creep and shrinkage of the wood and movement of the joints.

It is not known why H. T. Hartley selected the Long system for the Staats Mill Bridge. In addition, he framed the bridge without the use of stiffening arches, despite the fact that the span was nearly 100 feet. The result is an

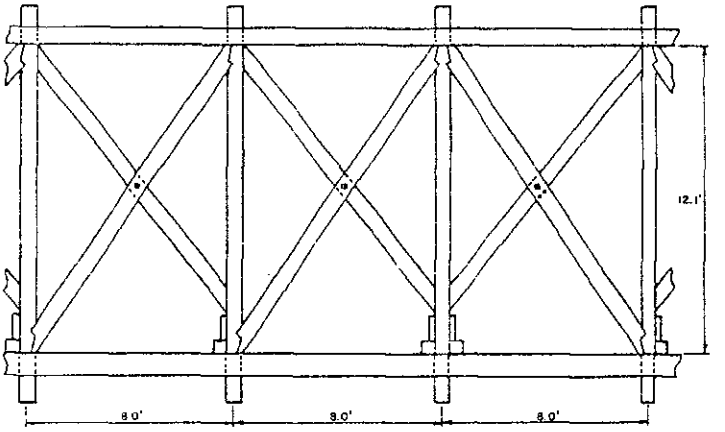
outstanding example of a pure Long Truss covered bridge of notable span, executed by craftsmen of considerable skill. Its architectural beauty, as well as its utility in providing transportation for the region, made the Staats Mill Covered Bridge a source of pride for the people of Jackson County and West Virginia.

The Staats Mill Covered Bridge is 97 feet long and 11 feet, 4 inches wide. It has red wooden siding and a standing seam metal roof.

The patented Long trusses have 12 panels, each approximately 8 feet long and 12.1 feet high. Each panel has double diagonals made up of two 6-1/2x6-inch members, which slope toward the centerpost and a 6-1/2x6-inch single center diagonal, fitting between and bolted to the double diagonals. The tops of the single diagonals fit into the notched tops of the 6-1/2x6-inch verticals, while the bottom ends rests on bearing blocks. An 8x8-inch member sandwiched between two 6x8-inch members comprises the top chord, while the bottom chord is made up of an 8x10-inch member sandwiched between two 6x10-inch members. Noteworthy is the fine craftsmanship used in fashioning the double diagonal-vertical joints, and the splice details on the top and bottom chords. The splice details make use of joggles and shear keys that aid in uniformly transferring shear through the chord's components. The asphalt deck, which has replaced the original timber one, and the trusses rest on steel girders supported by the abutments and two steel bents that are supported by concrete piers near midspan.

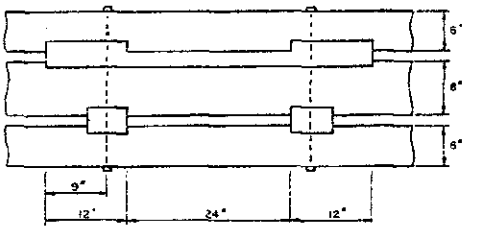
References: Allan, Richard S., Covered Bridges of the Northeast, Stephen Greene Press, Brattleboro, Vermont, 1957; Allan, Richard S., Covered Bridges of the Middle Atlantic States, Stephen Greene Press, Brattleboro, Vermont, 1959.

Transmitted by: Jean P. Yearby, 1984, from data compiled by the West Virginia Department of Transportation, 1982



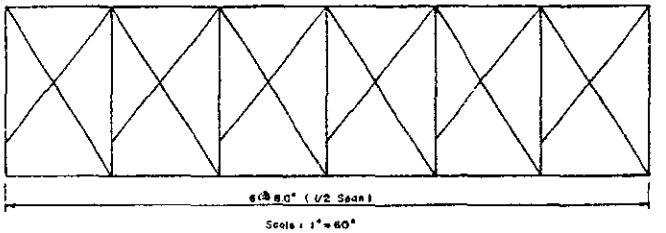
Scale : 1" = 30"

FIGURE 1 - STAATS MILL - MIDSPAN PANEL DETAIL.



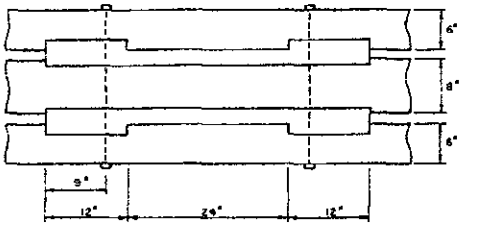
Scale : 1" = 10"

FIGURE 4 - STAATS MILL - TYPICAL TOP CHORD DETAIL SHOWING JOGGLE SPLICE PIECE AND SHEAR KEYS.



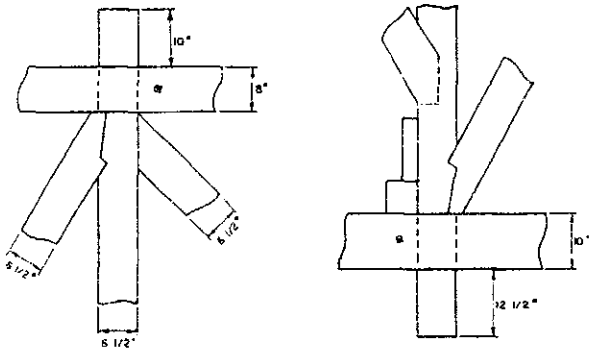
Scale : 1" = 60"

FIGURE 2 - STAATS MILL - LINE DRAWING OF TRUSS SECTION



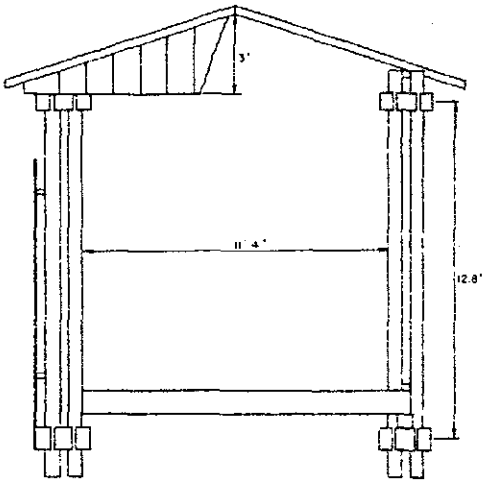
Scale : 1" = 10"

FIGURE 5 - STAATS MILL - TYPICAL BOTTOM CHORD DETAIL SHOWING JOGGLE SPLICE PIECES



Scale : 1" = 12"

FIGURE 3 - STAATS MILL - TOP CHORD JOINT DETAIL (LEFT) AND BOTTOM CHORD JOINT DETAIL (RIGHT)



Scale : 1" = 30"

FIGURE 6 - STAATS MILL - END VIEW

DRAWN BY:

NAME AND LOCATION OF STRUCTURE

UNDER DIRECTION OF THE NATIONAL PARK SERVICE, UNITED STATES DEPARTMENT OF THE INTERIOR

STAATS MILL COVERED BRIDGE RESTORATION - MILL CREEK WATERSHED PROJECT NO. 8021

RECORD NO.

HISTORIC AMERICAN ENGINEERING RECORD

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